



MANUAL PART NUMBER: 400-0103-001  
PRODUCT REVISION: 2

## VA6822

# SYSTEM INTERFACE WITH AUDIO & EQUALIZATION USER'S GUIDE

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## PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **VA6822** Interface. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **VA6822** and to prevent fire and shock hazard. Please read them carefully and heed all warnings.

### 1.1 GENERAL

- Unauthorized personnel shall not open the unit since there are high-voltage components inside.
- Qualified ALTINEX service personnel, or their authorized representatives must perform all service.

### 1.2. SAFETY GUIDELINES FOR THE RACK-MOUNTING OF THE VA6822

- Maximum operating ambient temperature is 35 (degrees C).
- Never restrict the airflow through the devices' fan or vents.
- When installing equipment into a rack, distribute the units evenly. Otherwise, hazardous conditions may be created by an uneven weight distribution.
- Connect the unit to a properly rated supply circuit.
- Reliable Earthing (Grounding) of Rack-Mounted Equipment should be maintained.

### 1.3 INSTALLATION

- For best results, place the **VA6822** Interface on a flat, level surface in a dry area away from dust and moisture.
- To prevent fire or shock, do not expose this unit to rain or moisture. Do not place the **VA6822** Interface in direct sunlight, near heaters or heat radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Handle the **VA6822** Interface carefully. Dropping or jarring can damage internal components.

- Do not place heavy objects on top of the **VA6822**. If the **VA6822** is to be mounted to a table or wall, use only ALTINEX-made mounting accessories like brackets (**DA1293FC** or **DA1294FC**) and cables for optimum setup.
- To turn off the main power, be sure to remove the cord from the power outlet. The power outlet socket should be installed as near to the equipment as possible, and should be easily accessible.
- Do not pull the power cord or any cable that is attached to the **VA6822** Interface.
- If the **VA6822** Interface is not used for an extended period, disconnect the power cord from the power outlet.

### 1.4 CLEANING

- Unplug the **VA6822** power cord before cleaning. Clean surfaces with a dry cloth. Never use strong detergents or solvents such as alcohol or thinner. Do not use a wet cloth or water to clean the unit.

### 1.5 FCC / CE NOTICE

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the

user will be required to correct the interference at his own expense.

- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

## ABOUT YOUR INTERFACE 2

There are a several varieties of computers and computer video cards on the market today. There are also numerous monitors and large screen data projectors. When displaying a computer image on a large screen projector or on a large screen monitor, it often becomes clear that some computers are not always compatible with certain display devices. The **VA6822** is a computer video interface designed to resolve this incompatibility. The **VA6822** is a system interface, which can be table mounted or rack mounted.

The **VA6822** is single input computer video interface with audio. It is designed to interface up to one VGA/SVGA/XGA/UXGA/MAC SUN or SGI computer video source to two scan-rate compatible presentation monitors or data projectors.

It is important to understand the general capabilities of interfaces. Interfaces do not change the scan-rate or the resolution of the video signal. An interface simply converts a computer video signal to a pre-selected analog format.

The **VA6822** is a state-of-the art piece of equipment with an exceptional combination of compact size, advanced features, and very competitive pricing.

FEATURES/ DESCRIPTION	AUDIO	VIDEO
<b>GENERAL</b>		
<b>No. of Inputs</b>	1	1
Input Connector	3.5 mm stereo jack	15-pin HD Female
<b>No. of Outputs</b>	1 Main + 1 Local Monitor	1 Main + 1 Local Monitor
Local Output Connector	3.5 mm stereo jack	15-pin HD Female
Main Output Connector	5-position Terminal Block	5 BNC Female
<b>Compatibility Signal</b>	Stereo or mono unbalanced audio	VGA/SVGA/XGA/UXGA MAC/SUN/SGI and other analog computer video sources with RGBS or RGBHV signal types & RGsB (pass-through)

Table 1. **VA6822**General

MECHANICAL SPECIFICATIONS	Value
Depth (inches)	6.00 in. (153mm)
Width (inches)	8.5 in. (216mm) ½ rack wide
Height (inches)	1.76 in (44.7mm) 1U
Weight (pounds)	1.0 lb. (0.45kg)
Ship Weight (pounds)	1.6 lb. (0.73kg)
Material	Aluminum
Finish	Paint, ALTINEX Gray
Top Panel	Lexan Overlay
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs

Table 2. **VA6822** Mechanical Specifications

## TECHNICAL SPECIFICATIONS 3

ELECTRICAL SPECIFICATIONS	AUDIO	VIDEO
<b>Input Signals</b>		
Level	0.1 to 4.8V p-p	0.3 to 1.2V p-p for RGB video signal TTL (+/-) for H, V, or C sync signal. - 0.3V for Sync on Green
Impedance	10k Ohms	75 Ohms ( $\pm 1\%$ ) for video signal; 10k Ohms for sync signals
<b>Output Signals</b>		
Type	Balanced on Main; Unbalanced on Local	RGsB /RGSB/ RGBHV (pass-through)
Level	0.1 to 4.8V p-p	0.3 to 1.2V p-p for RGB video signal TTL (+/-) for H, V, or C sync signal. - 0.3V for Sync on Green
Impedance	620 Ohms for balanced; 50 Ohms for unbalanced on Local Monitor	75 Ohms for video signal; 22 Ohms for sync signal
Gain	0 dB	1.05
Equalization of Main Output	—	User adjustable 16-position through front panel
Equalization Range	—	25ft increment, up to 300ft with super high resolution cable
Target Frequency	—	Mid to high up to 350MHz
<b>Frequency Compatibility</b>		
Frequency	20Hz to 20kHz	Horizontal sync – 15 to 130kHz; Vertical sync – 25 to 180Hz
Bandwidth	20kHz minimum	Minimum 350MHz for -3dB loss
Horizontal Adjustment	—	20% through dial on the Front

Position Range		Panel, 10% through remote H-position connector
<b>Power</b>		
Power Input	100-240V AC, 50/60Hz, 0.4A	
Power Consumption	10 watts max.	

Table 3. **VA6822** Electrical Specifications

## VA6822 DESCRIPTION

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The **VA6822** has two key functions. First, it amplifies (buffers) the input video and audio signal so that it is strong enough to travel long distances up to 350ft through high quality cables to a distant display and audio receiver. The second function of the **VA6822** is to process the incoming sync signal and convert it to a format that is accepted by a projector. The computer and projector should be scan-rate compatible.

### 4.1 COMPUTER VIDEO INPUT (VGA-COMPATIBLE 15-PIN HD CONNECTOR)

The 15-pin HD connector input allows the connection of a computer to the system interface using ALTINEX-made input cables which are available for a variety of popular computers and graphics cards on the market such as VGA, MAC, SUN, and SGI. The input of the **VA6822** is compatible with VESA standard-VGA/XGA, which is shown below.

PIN No.	INPUT SIGNALS ON 15 PIN-HD FEMALE CONNECTOR
1	Red Video
2	Green Video
3	Blue Video
4	ID Bit 2
5	SCL/SDA ID Bit Reference/ Return
6	Ground
7	Ground
8	Ground
9	Vesa +5V
10	Sync Return
11	ID Bit 0
PIN No.	INPUT SIGNALS ON 15 PIN-HD FEMALE CONNECTOR
12	SDA – DDC Data

<b>13</b>	Horizontal Sync
<b>14</b>	Vertical Sync
<b>15</b>	SCL – DDC Clock

Table 4. **VA6822** Input pin-outs

## 4.2 LOCAL MONITOR OUTPUT (15-PIN HD CONNECTOR)

The 15-Pin HD connector output is used to connect the local monitor to the interface.

This is a fully buffered output, eliminating reflections often caused by “Y” type monitor breakout cables. This output does not have to be terminated if unused. The Local Monitor output is buffered so that it can drive a distance up to 25ft with high-resolution coaxial cable. The output is VESA compatible for VGA through UXGA signals, but can also be used to transmit signals to other types of local monitors using designated ALTINEX adapter cables such as MAC, SUN, SGI, or RGB.

<b>PIN No.</b>	<b>LOCAL MONITOR OUTPUT SIGNALS ON 15-PIN HD FEMALE CONNECTOR</b>
<b>1</b>	Red Video
<b>2</b>	Green Video
<b>3</b>	Blue Video
<b>4</b>	ID Bit 2
<b>5</b>	SCL/SDA ID Bit Reference/ Return
<b>6</b>	Ground
<b>7</b>	Ground
<b>8</b>	Ground
<b>9</b>	Composite SYNC (used for MAC/ SUN / SGI)
<b>10</b>	Sync Return
<b>11</b>	ID Bit 0
<b>12</b>	SDA – DDC Data
<b>13</b>	Horizontal Sync
<b>14</b>	Vertical Sync
<b>15</b>	SCL – DDC Clock

Table 5. Local Monitor Output pin-outs

## 4.3 MAIN OUTPUT THROUGH 5 BNC CONNECTORS

BNC connectors offer a reliable connection for high-resolution video signals, and they facilitate easy cable maintenance in the field. The **VA6822**

offers the main output with 5-BNC connectors. By connecting to the appropriate connectors of the **VA6822**, it can provide RG<sub>s</sub>B, RGBHV, or RGBS output signals.

With these connectors the **VA6822** can be connected to compatible data projectors using 3 coax, 4 coax, or 5 coax cables.

<b>CONNECTOR</b>	<b>MAIN DUAL OUTPUT (6-BNC FEMALE)</b>
<b>Red</b>	Red Video
<b>Green</b>	Green Video
<b>Blue</b>	Blue Video
<b>HSYNC</b>	Sync/ Horizontal Sync
<b>VSNC</b>	Vertical Sync
<b>CSYNC</b>	Composite Sync

Table 6. **VA6822** Main Output pin-outs

## 4.4 HORIZONTAL POSITION ADJUSTMENT

Most monitors and projectors have the ability to adjust the horizontal position of the image, but in some instances it is helpful to be able to control this feature at the interface. This control is especially useful when multiple computers are switched to a single display and the horizontal positions from each computer are slightly different.

With the **VA6822**'s horizontal position control dial in the OFF (locked) position, first the image should be adjusted using the control on the monitor or projector. Then adjust the image with the **VA6822**'s horizontal position control dial located on the front panel.

To disable the adjustment of the horizontal position of the image, turn the horizontal position dial fully to the right until a “clicking” sound is heard.

The **VA6822**'s horizontal position of the image can also be adjusted remotely using an available optional accessory that is inserted into a 3.5mm jack labeled as “Remote H-position”. To enable adjustment of the image's position, first the H-position dial located on the front panel must be in a locked position. Now using the knob on the optional accessory, the image can be shifted.

Please note that using a longer cable or a non-ALTINEX cable for remote horizontal position could affect the stability of the picture by creating unwanted jitter.

## 4.5 MOUNTING CAPABILITY

The **VA6822** can be easily mounted into an equipment rack. Four mounting holes are provided on each side of the unit. To mount a single unit, use ALTINEX 19"-1U Rack Mount Ears (part # **DA1294FC**). To mount two units in tandem, use an ALTINEX 19"-1U Rack Mount Shelf (part # **DA1293FC**). For under the table mounts, optional brackets like the **TM1271**, **TM1272**, **TM1273**, or **TM1274** can be used.

## 4.6 POWER REQUIREMENTS

The **VA6822** may be used anywhere in the world where the voltage is from 100 to 240 volts AC at 50/60 Hz. For the safety of the user and for protection of the unit, make sure that the input voltage of the **VA6822** is in the range of 100 to 240VAC. The unit is auto-switchable so that no user adjustments are necessary when switching from 120 to 220VAC for different countries. The LED located on the front and back panel should light RED or GREEN when valid power input is transmitted to the **VA6822**.

## 4.7 BANDWIDTH

The typical bandwidth of the **VA6822** is 425 MHz. The minimum bandwidth is 350 MHz. This exceptionally high bandwidth allows passing of the third harmonics of the video signal, thus maintaining the highest quality of the video signal. The **VA6822** can easily pass signals from VGA through UXGA. The signal quality at the display/target will depend upon the type and quality of cable used.

The **VA6822** has a high bandwidth of 350 MHz allowing high-resolution signals to pass through the unit without attenuation for a long run. For cable runs longer than 100ft, the signal attenuates at medium and/or high frequency. To correct this cable attenuation problem, the **VA6822** is equipped with a feature called Equalization/Peaking on the front panel for each video signal: red, green, and blue. These channels can be equalized individually. Starting from step one on the dial, equalization can be increased to step E for longer cable lengths in increments of 25ft with a slotted screw driver. Before increasing to the next level, check the sharpness of the picture on the display. If the picture is sharp enough, do not increase it to the next level.

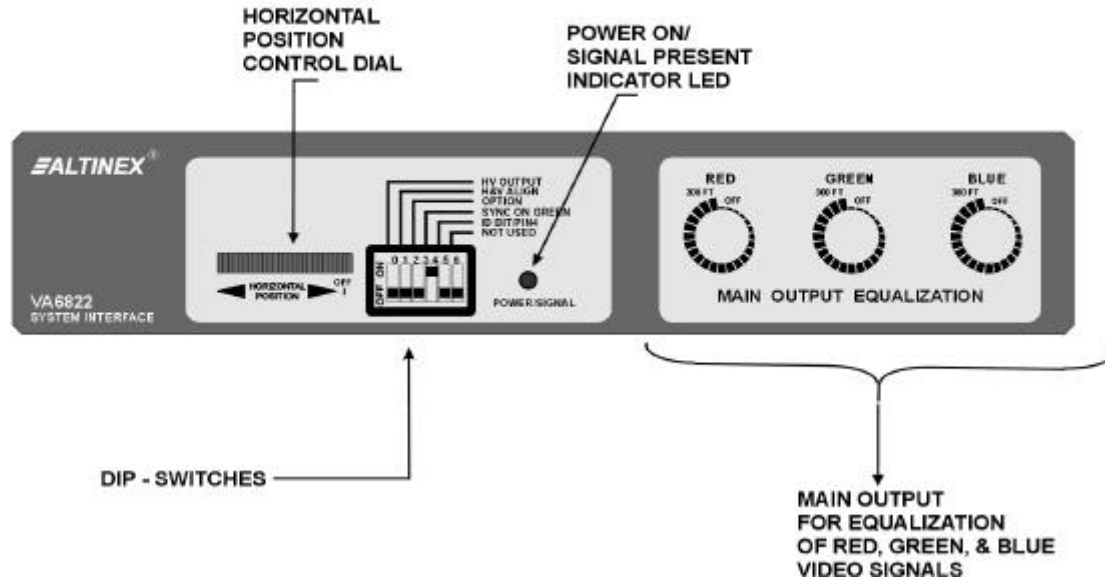
With a good quality of output cables and a strong input signal, the **VA6822** can drive signals up to 300ft with minimal loss of the signal quality.

## 4.8 EQUALIZATION

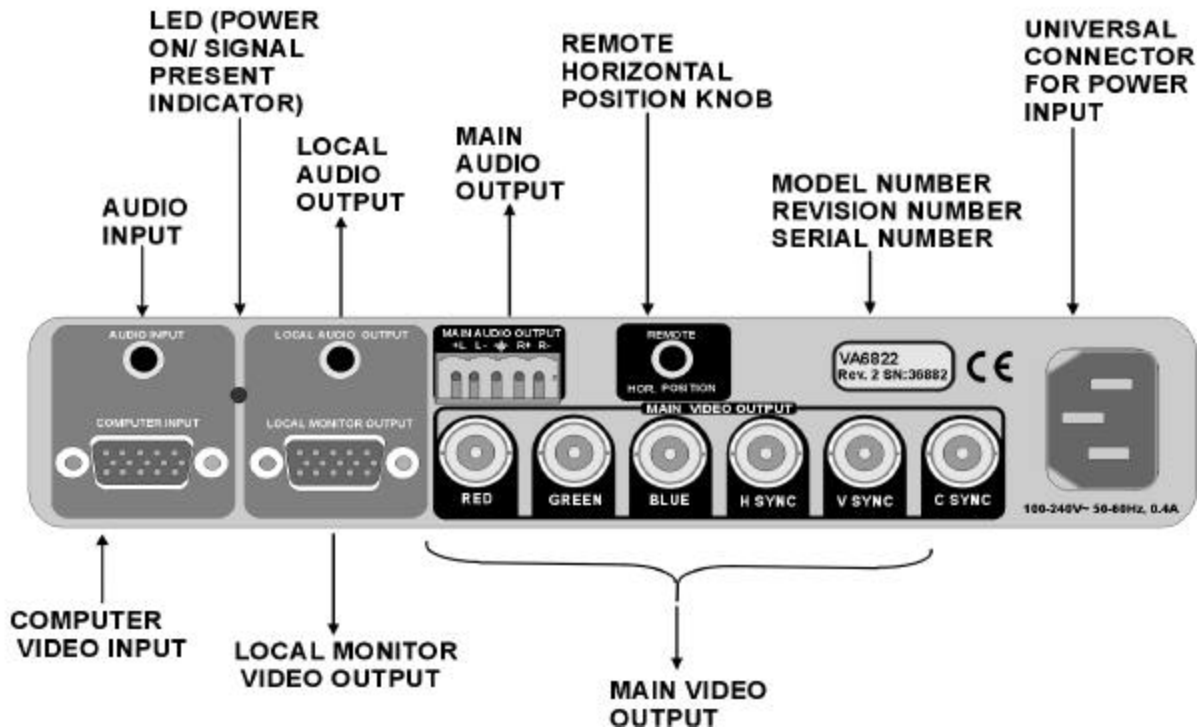
## DESCRIPTION OF VA6822

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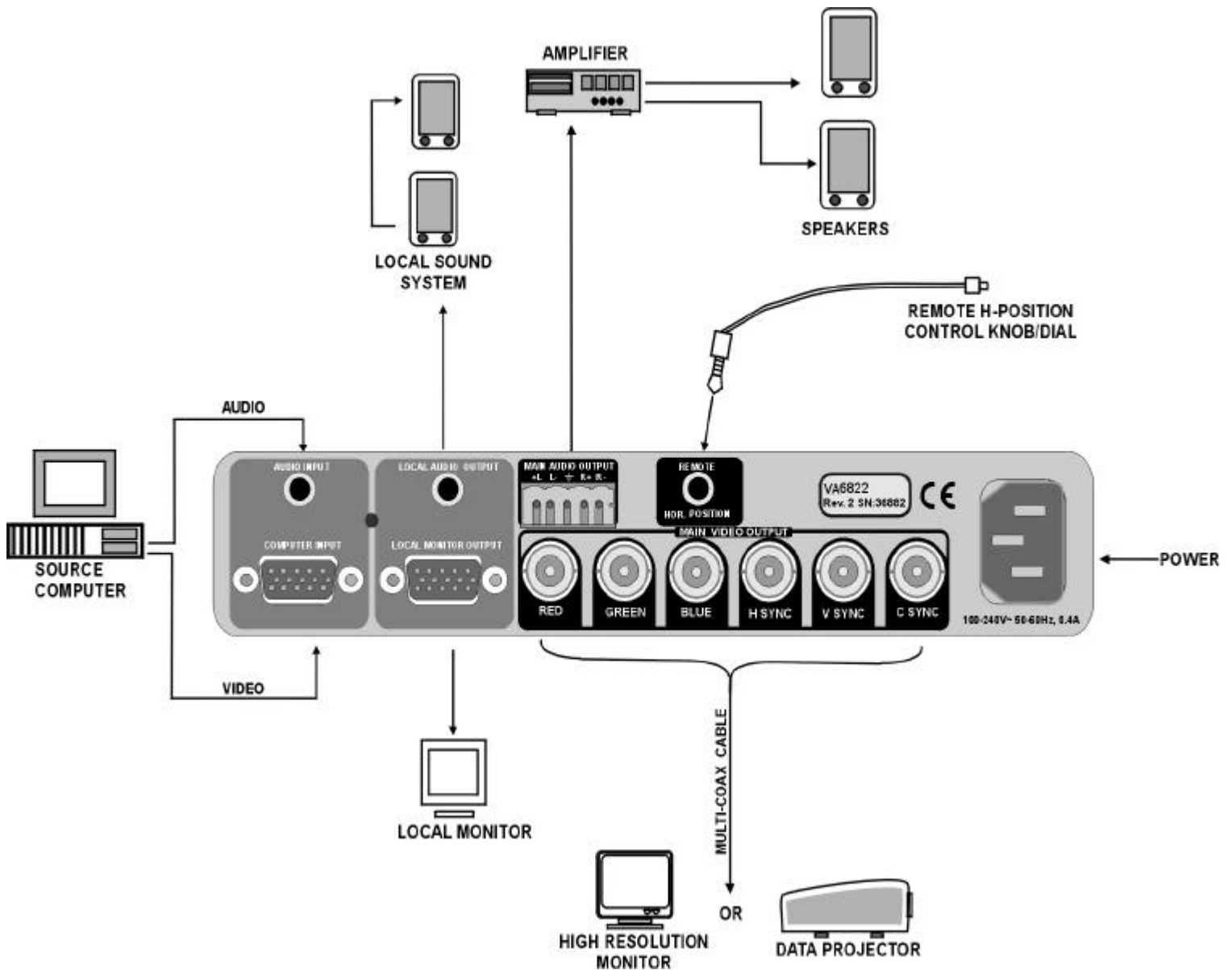
### FRONT PANEL



### BACK PANEL







## INSTALLING YOUR INTERFACE

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- Step 1.** Please attach the **VA6822** Interface on the rack using the provided rack mount hardware or on/under furniture using the optional **TM** Series ALTINEX brackets.
- Step 2.** Connect one end of the input cable to the video output connector of the source computer and the other end to the computer input port of the **VA6822**.
- Step 3.** Connect an audio input cable's 3.5mm plug to the audio output of a source computer and the other end to the audio input connector of the **VA6822**. If needed, use a similar cable to connect the audio output of the **VA6822** to a speaker or audio equipment.
- Step 4.** Connect the local monitor output connector of the **VA6822** to a local monitor or display using the appropriate ALTINEX Local Monitor cables. It is not necessary to terminate this output with a termination plug if a local monitor is not being used.
- Step 5.** Connect one end of a coaxial cable to the main output of the **VA6822** and the other end to the RGBHV/RGBS input on the projector or monitor. Usually either a 4 BNC or 5 BNC coaxial cable is used, depending on whether the display devices require composite sync (RGBS) or separate horizontal and vertical sync (RGBHV) signals.
- Step 6.** Connect the main audio output from the **VA6822** through the provided 5-position terminal block to the input of a sound system amplifier.
- Step 7.** Make sure that the dip- switches are set as described in section 7.
- Step 8.** Using the provided power cable for your country of usage, connect the power input IEC connector to the AC wall outlet. The power supply used in the **VA6822** is universal so it can accept from 100 VAC

to 240 VAC 50/60Hz. It is not necessary to change any voltage selection settings on the **VA6822**. The LED on the front and back panel of the **VA6822** will light GREEN if the appropriate input signal is present and will remain RED if a valid input is not detected.

- Step 9.** It is recommended that you move the **VA6822**'s horizontal position dial to the far right facing the front until it clicks. This will disable the movement of the horizontal position of the image. The horizontal position of the image should first be adjusted using the control provided by the monitor or projector. If further adjustments are still required, then image can be adjusted using the horizontal position control dial located on the front of the **VA6822**.
- Step 10.** Adjust the equalization channels for the Red, Green, and Blue channels to get the best possible image on the display. It is recommended to increase equalization on all three channels simultaneously until the picture is perfect.

## OPERATION

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In most cases no adjustments are necessary to obtain a good quality picture on the display; however, dip-switches located on the front panel should be set for certain types of input and output signals. The factory default settings are shown below in Table 7. The **VA6822** will operate successfully as long as cables are attached properly and all technical specifications of input and operating environment are maintained.

DIP SWITCH	OFF	ON
HV Output		X
HV Align	X	
Option	X	
Sync on Green	X	
ID Bit/ Pin 4		X
Not Used	X	

Table 7. Dip-switch default settings

### 7.1 H&V OUTPUT SWITCH

This dip-switch controls the type of sync signal that is present on the HSYNC connector. If the H&V output dip-switch is in the OFF position, then the composite sync signal is present on the HSYNC connector when the input in RGBS or RGBHV format. If the H&V output dip-switch is in the ON position, then the horizontal sync signal is present on the HSYNC connector when the input is in RGBS or RGBHV format.

### 7.2 H&V ALIGN SWITCH

By default the H & V ALIGN dip-switch is in the OFF position, so Horizontal and Vertical SYNC signals are independent. By turning this dip-switch to the ON position, the pulse of both HSYNC & VSYNC signals start at the same point for the benefits of some LCD projectors.

### 7.3 OPTION SWITCH

By default, this dip-switch is in the OFF position. By putting it in the ON position, the duration of Vertical SYNC of the signal is reduced to 10ms. This allows stability of the signal on a long run cable. It is not recommended to use the H&V ALIGN feature when the Option dip-switch is ON.

### 7.4 SYNC ON GREEN SWITCH

Often systems that use large matrix switchers are designed to switch signals in RGsB format. This is done to reduce the cost of the switcher and cable. In these types of systems, the ability of the **VA6822** to output Sync on Green can be very helpful. It is important to note that the **VA6822** will not separate the Sync signal from the Green video signal if the input signal is RGsB. When the Sync on Green dip-switch is in the ON position; the **VA6822** will combine a composite sync of -0.3V amplitude to the green video signal to provide RGsB output if the input signal is in RGBS or RGBHV format from the source. When the Sync on Green dip-switch is in the OFF position, the unit will provide all RGsB, RGBS or RGBHV signals at the output connectors in the same format as the input.

### 7.5 ID BIT SWITCH

Some computers on the market, especially laptop computers, require the presence of a local monitor to correctly output video. The ID Bit switch, when turned ON, will connect Pin 4 to ground. This enables the interface to imitate a local monitor if one is not being used in the system. When the ID Bit switch is in the OFF position, the ID Bit of pin 4 is passed through to the local monitor output.

### 7.6 NOT USED

This dip-switch is not used for any settings at this time.

## ACCESSORIES

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Model No.	Description
<b>RACK MOUNT ACCESSORIES</b>	
DA1293SX	Rack/Wall Shelf fits two VA6822 units side by side
DA1294SX	Rack/Wall mount ears for single VA6822
<b>TABLE MOUNT BRACKETS</b>	
TM1271	1U High, ½ Rack-Wide
TM1272	1U High, ½ Rack-Wide with 15-pin HD connector plate
TM1273	1U High, ½ Rack-Wide with snap-in connectors
TM1274	1U High, ½ Rack-Wide with snap-in POWER connectors
<b>POWER CORD</b>	
PS5301US	Power Supply for US (requires Adapter Cable)
PS5302UK	Power Supply for UK (BS1363 Compliant) with 5 Amp fuse
PS5303AU	Power Supply for Australia
PS5304GR	Power Supply for Germany, 220V
<b>INPUT CABLES</b>	
<b>VGA w/ AUDIO</b>	
CB901-A1	VGA audio input cable
CB901-A2	VGA audio input cable
CB901-A3	VGA audio input cable
<b>VGA</b>	
MS8125CA/ MS8155CA/ MS8165CA	VGA local monitor output cable
MS8126CA/ MS8156CA/ MS8166CA	VGA input cable
<b>MAC</b>	
MS8121CA/ MS8151CA/ MS8161CA	MAC local monitor output cable
MS8122CA/ MS8152CA/ MS8162CA	MAC input cable

MS8123CA/ MS8153CA/ MS8163CA	SUN local monitor output cable
MS8124CA/ MS8154CA/ MS8164CA	SUN input cable
<b>RGB</b>	
MS8129CA	5 coax. (BNC) cable
<b>AUDIO CABLE</b>	
MS8131CA	SUN SPARC Local Monitor output cable
MS8130CA	SUN SPARC Input Cable
CB102-SMM0006SMM	Audio (3.5mm) cable
<b>OUTPUT CABLES</b>	<b>5 BNC TO 5 BNC COAXIAL CABLE</b>
CB4203MR	3 feet, 5 BNC to 5 BNC coaxial cable
CB4206MR	6 feet, 5 BNC to 5 BNC coaxial cable
CB4212MR	12 feet, 5 BNC to 5 BNC coaxial cable
CB4225MR	25 feet, 5 BNC to 5 BNC coaxial cable
CB4250MR	50 feet, 5 BNC to 5 BNC coaxial cable
CB4275MR	75 feet, 5 BNC to 5 BNC coaxial cable
CB42100MR	100 feet, 5 BNC to 5 BNC coaxial cable
CB42150MR	150 feet, 5 BNC to 5 BNC coaxial cable
TBD	Remote Horizontal position SNAP-IN connector

## SUN/SGI

## FREQUENTLY ASKED QUESTIONS 9

No:	Question	Answer
1	When and why do I need to use the horizontal position dial?	The horizontal position control dial enables or disables the control of the horizontal position of the image. First adjust the horizontal position using the monitor or projector control, and then use the horizontal position control of the <b>VA6822</b> , if needed.
2	What dip-switch do I set to receive composite SYNC output?	The first option is to take the output from RED, GREEN, BLUE & CSYNC connectors regardless of the dip-switch settings. The second option is to turn OFF the H&V Output dip-switch and take the output from RED, GREEN, BLUE, and HSYNC connectors.
3	When and why would I use the Sync on Green dip-switch, although the unit does not separate Sync from Green?	The <b>VA6822</b> does not separate the sync signal from green, but if the desired output is in RGsB format when the input signal is RGBS or RGBHV, then turn the sync on green dip switch to the ON position. The <b>VA6822</b> combines Sync on Green if this switch is in the ON position.
4	When do I use the H&V Out dip-switch?	If the desired output is in RGBHV format, then turn ON the H&V Out dip-switch. If the H&V Out dip-switch is OFF, then composite sync may be present on the HSYNC connector.

## TROUBLESHOOTING GUIDE 10

1. The power LED should turn RED when the correct voltage is applied to the Interface. It should turn GREEN when both power and a valid input signal is applied. If the power LED is absent when the unit is turned ON, return the **VA6822** to the factory for repair.
2. Make sure the cables have the correct pin-out and the connection and quality of the cables is good.
3. Make sure that the source and display are scan-rate compatible. The projector should support an appropriate signal format (RGsB, RGBS or RGBHV). Connect the projector directly to a computer with a shorter cable to verify the compatibility of display and source.
4. If the desired output is in RGBS format, then the H&V Output dip-switch is in the OFF position and the Composite SYNC signal is taken from the HSYNC or CSYNC connector. If the display needs an RGBHV signal, then the H&V Output dip-switch should be in the ON position and the sync signal is taken from the HSYNC and VSYNC connectors.
5. If the desired output is RGsB, then the SYNC ON GREEN dip-switch should be ON.
6. If the image bends on top of the screen and RGBHV output is used, then turn on the H&V Output dip-switch.
7. Please make sure that the amplitude level of the input signal is as follows:
  - a) RED, GREEN, and BLUE channels are less than 1.2Volts
  - b) HSYNC & VSYNC are less than 5.0 volts
8. Please use only an ALTINEX supplied power cord suitable to the country of usage for proper operation of the **VA6822**.
9. If problems show up on the display after continuous usage at higher voltage, higher temperature, higher humidity, or at other extreme environmental conditions, please correct those extreme conditions.

## ALTINEX POLICY

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### 11.1 LIMITED WARRANTY

ALTINEX warrants that its products and cables are free from defects in materials under normal use and service. This warranty is limited to repairing at company's factory any part or parts of the product, which upon company's examination shall disclose to be, thus defective. Products considered defective should be returned to company with transportation charges pre-paid within 2 years (90 days for cables) from date of shipment to the purchaser. The warranty is expressly instead of all other warranties expressed or implied. ALTINEX neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale of the products. This warranty shall not apply to any product that shall have been repaired or altered outside of company's factory in any way so as, in its judgment, to affect its stability or reliability, or that has been subject to misuse, negligence, or accident.

### 11.2 RETURN POLICY

It is very important to ALTINEX that you receive the products that you have ordered and that this product meets your expectations. In the unlikely event, that an ALTINEX product needs to be returned please follow the policy below:

ALTINEX will accept product returns for a period of 30 days from authorized ALTINEX dealers. Products must be returned in an unopened package.

If a product has been opened, the restocking fees will apply. For the restocking fee amount, please contact an ALTINEX Sales Representative.

If the product is in your possession for more than 30 days, the restocking fees will apply.

ALTINEX will not accept any returns on cables or custom products.

If your product is in warranty and needs service, contact the ALTINEX Sales Department for an RMA (Return Material Authorization). Products

returned without an RMA number may experience a delay in service.

If your product is out of warranty and needs service, contact the ALTINEX Sales Department for an RMA (Return Material Authorization). Products returned without an RMA number may experience a delay in service. The service charges will be quoted to you before the actual repairs are done.

### 11.3 CONTACT INFORMATION

#### Sales Department

Phone: 714-990-2300

Fax: 714-990-3303